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EXAMINER

GE, YUZHEN

ART UNIT

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2624

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/725,422

Applicant(s)

HIBI ET AL.

Examiner

Yuzhen Ge

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 27-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 27-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Examiner's Remark

Applicant's amendment, filed on Aug. 22, 2007, has been received and entered into the file. Claims 19-26 and 37-41 are cancelled. Claims 1-18 and 27-36 are pending. Claims 1-7, 10-16, 27-33 and 36 are amended. The objections to specification and 101 rejection of claim 36 have been overcome in view of applicant's amendments/remarks and are hereby withdrawn.

Applicant's arguments with respect to claims 1, 10, 27 and 36 have been considered but are moot in view of the new ground(s) of rejection.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. Claims 1, 3-4, 6, 10, 12-13, 15, 27, 29-30, 32, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwata et al (US Patent Pub. 2002/0027603) in view of Borg (US Patent 6,754,382).

Regarding claims 1 and 10, Kuwata et al teach an image processing apparatus comprising:

determining means for determining whether image data to be processed includes color space information identifying a color space in which the image data is defined (Figs. 6 and 7, paragraphs [0081-0082]);

inferring means for determining the color space of the image data that is to be processed when the determining means determines that the image data does not include color space information identifying the color space (Figs. 6 and 7, paragraphs [0081-0083], the default color space information stored in the printer is inferred to be the color space of the image data); and

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processing means for performing a prescribed processing to the image data on the basis of information indicating the color space determined by the inferring means (Figs. 6 and 7, paragraphs [0084]-[0086], for example, the processing is to convert YCbCr image data to RGB image data).

However they do not explicitly teach the determination of the color space of the image data is based on characteristics of the image. In the same field of endeavor, Borg teaches determination of the color space of the image data is based on characteristics of the image (abstract, col. 3, lines 33-60, col. 4, lines 6-21, for example, the test color or color specification is a characteristics of an image, Figs. 1-3). It is desirable to determine the color space of an image when the color space is not explicitly specified (col. 1, lines 29-57 of Borg). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to determine the color space of the image data based on characteristics of an image so that correct color processing can be applied.

Regarding claims 3 and 12, Kuwata et al and Borg teach the image processing apparatus according to claims 1 and 10. Kuwata et al further teach wherein the inferring means determines the color space of the image data by using appended data that is input together with the image data, the appended data including at least one of information indicating a format of the image data, information including at least one of a date and time of generation of the image data, a date and time of last updating of the image data, and information indicating an editing history of the image data (Figs. 6 and 7, paragraphs [0083]-[0086], a format of the image data is included).

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Regarding claims 4 and 13, Kuwata et al and Borg teach the image processing apparatus according to claims 1 and 10. Kuwata et al further teach the apparatus comprising means for performing, on the image data, conversion processing from the determined color space to another color space and for presenting a result of the conversion processing to a user (Figs. 6 and 7, paragraphs [0083]-[0086], displaying through PC or printer is presenting a result of conversion processing to a user).

Regarding claims 6 and 15, Kuwata et al and Borg teach the image processing apparatus according to claims 3 and 12. Kuwata et al further teach the apparatus comprising means for performing, on the image data, conversion processing from the determined color space to another color space and for presenting a result of the conversion processing to a user (Figs. 6 and 7, paragraphs [0083]-[0086], displaying through PC or printer is presenting a result of conversion processing to a user).

Claim 36 is the corresponding program claim of claim 1. Kuwata et al teach a program (abstract). Thus Kuwata et al and Borg teach claim 36 as evidently explained in the above-cited passages for claim 1.

Claims 27, 29-30, and 32 are the corresponding method claim of claims 1, 3-4 and 6. Kuwata et al teach a method (abstract, Figs. 6-7 and 9-10). Thus Kuwata et al and Borg teach claims 27, 29-30 and 32 as evidently explained in the above-cited passages for claims 1, 3-4 and 6.

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2. Claims 1, 7-8, 10, 16-17, 27, 33-34 and 36 are rejected under 35 U.S.C. 102(e) as being anticipated by Sugiura et al (US Patent 6,980,325) in view of Kuwata et al (US Patent Pub. 2002/0027603), further in view of Borg (US Patent 6,754,382).

Regarding claims 1 and 10, Sugiura et al teach an image processing apparatus comprising:

determining means for determining whether image data to be processed includes color space information identifying a color space in which the image data is defined (Fig. 1, col. 1, lines 56-67, col. 2, lines 1-7, abstract, Figs. 2A-5)

inferring means for determining a color space of image data that is to be processed (Fig. 1, col. 1, lines 56-67, col. 2, lines 1-7, abstract, Figs. 2A-5); and

processing means for performing a prescribed processing to the image data on the basis of information indicating the color space inferred by the inferring means (Fig. 1, col. 1, lines 56-67, col. 2, lines 8-15, abstract, Figs. 2A-5).

However they do not explicitly teach determining the color space of the image data that is to be processed based on characteristics of the image when the determining means determines that the image data does not include color space information identifying the color space.

In the same field of endeavor, Kuwata et al teach determining the color space of the image data that is to be processed when the determining means determines that the image data does not include color space information identifying the color space (Figs. 6 and 7, paragraphs [0081-0083], the default color space information stored in the printer is inferred to be the color space of the image data). Borg teaches determination of the color space of the image data is based on characteristics of the image (abstract, col. 3, lines 33-60, col. 4, lines 6-21, for example, the test

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color or color specification is a characteristics of an image, Figs. 1-3). It is desirable to determine the color space of an image when the color space is not explicitly specified (col. 1, lines 29-57 of Borg). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention, to determine the color space of the image data based on characteristics of an image so that correct color processing can be applied.

Regarding claims 7 and 16, Sugiura et al, Kuwata et al and Borg teach the image processing apparatus according to claims 1 and 10. Sugiura et al further teach wherein the inferring means: (1) performs conversion processing into another color space on data generated on the basis of the image data while assuming that the color space of the image data is a color space indicated by each of plural preset items of color space candidate information, to thereby obtain plural conversion processing results corresponding to the respective items of color space candidate information (Fig. 1, col. 1, lines 56-67, col. 2, lines 8-15, abstract, col. 2, lines 29-49); (2) presents the plural conversion processing results to a user (Fig. 1, col. 2, lines 29-49); (3) receives a manipulation of the user of selecting one of the plural conversion processing results (Fig. 1, col. 2, lines 29-49); and (4) employs, as an inference result of the color space of the image data, a color space indicated by color space candidate information that corresponds to the conversion processing result selected by the manipulation of the user (col. 2, lines 29-49, Fig. 1).

Regarding claims 8 and 17, Sugiura et al, Kuwata et al and Borg teach the image processing apparatus according to claim 7 and 16. Sugiura et al further teach wherein the data generated on

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the basis of the image data is one of the image data and reduced data of the image data (col. 1, lines 22-36, lines 57-67).

Claim 36 is the corresponding program claim of claim 1. Sugiura et al teach a program (abstract, inherent from computer implemented method). Thus Sugiura et al , Kuwata et al and Borg teach claim 36 as evidently explained in the above-cited passages for claim 1.

Claims 27, 33-34 are the corresponding method claim of claims 1, and 7-8. Sugiura et al teach a method (abstract). Thus Sugiura et al , Kuwata et al and Borg teach claims 27, and 33-34 as evidently explained in the above-cited passages for claims 1, and 7-8.

Claim Rejections - 35 USC § 103

3. Claims 2, 5, 9, 11, 14, 18, 28, 31, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuwata et al, in view of Borg, further in view of Bares (US Patent 7,110,143).

Regarding claims 2 and 11, Kuwata et al and Borg teach the image processing apparatus according to claims 1 and 10. However they do not explicitly teach, wherein the inferring means infers the color space of the image data by: (1) performing image recognition processing to the image data, the image recognition processing including recognizing a prescribed image portion of the image data as a predefined object; and (2) referring to color information that is set in advance as information representing a color of the predefined object recognized by the image

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recognition processing. They do teach tag data can be various information on color reproduction characteristics related to human perception (col. 5, line 38-col. 6, line 4)

In the same field of endeavor, Bares et al teach

(1) performing image recognition processing to the image data, the image recognition processing including recognizing a prescribed image portion of the image data as a predefined object (Figs. 1, 3 and 4, col. 4, lines 4-9, col. 4, lines 27-43, col. 5, lines 29-34); and

(2) referring to color information that is set in advance as information representing a color of the predefined object recognized by the image recognition processing (Figs. 1, 3 and 4, col. 4, lines 4-9, col. 4, lines 27-43, col. 5, lines 29-34, col. 5, line 59-col. 6, line 9).

It is desirable to perform an accurate reproduction of colors according to visual perception (col. 1, lines 23-36). Therefore it would have been obvious to one of ordinary skill in the art, at the time of invention to use the method of Bares et al to accurately infer color space information of Kuwata et al and Borg so that color image can be reproduced consistently.

Regarding claims 5 and 14, Kuwata et al, Borg and Bares et al teach the image processing apparatus according to claims 2 and 11, further. Kuwata et al further teach performing, on the image data, conversion processing from the inferred color space to another color space and for presenting a result of the conversion processing to a user (paragraphs [0006-0007], [0098]).

Regarding claims 9 and 18, Kuwata et al, Borg and Bares et al teach the image processing apparatus according to claims 2 and 11. Bares et al further teach wherein the color information that is set in advance includes at least one or more of: information indicating a saturation range,

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information indicating a hue range, and information indicating a target color (Figs. 1, 3 and 4, col. 4, lines 4-9, col. 4, lines 27-43, col. 5, lines 29-34, col. 5, line 59-col. 6, line 9, information indicating a target color is set).

Claims 28, 31 and 35 are the corresponding method claim of claims 2, 5 and 9. Kuwata et al teach a method (abstract, Figs. 6-7 and 9-10). Thus Kuwata et al, Borg and Bares et al teach claims 28, 31 and 35 as evidently explained in the above-cited passages for claims 2, 5 and 9.

Conclusion

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuzhen Ge whose telephone number is 571-272 7636. The examiner can normally be reached on 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on 571-272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Yuzhen Ge
Examiner
Art Unit 2624

WENPENG CHEN
PRIMARY EXAMINER



9/19/07